

METHODIST GIRLS' SCHOOL

Founded in 1887



PRIMARY 5 MID-YEAR EXAMINATION 2009 SCIENCE

BOOKLET A

Total Time : 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

Do not open the booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

Name: _____ ()

Class: Primary 5. _____

Date: 8 May 2009

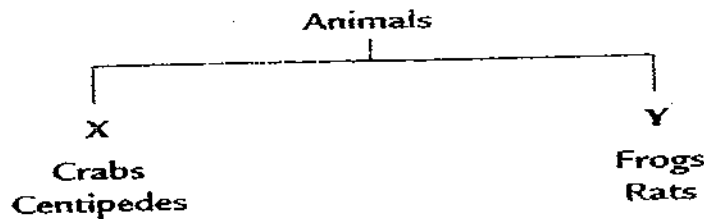
Booklet A	/ 60
Booklet B1	/ 20
Booklet B2	/ 20
TOTAL	/ 100

This booklet consists of 12 printed pages.

Section A (30 × 2 = 60 marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.**

1. Study the chart below.



Which of the following statements is correct about these two groups of animals?

- (1) Animals in group X are cold-blooded and animals in group Y are warm-blooded.
- (2) Animals in group X have no backbones and animals in group Y have backbones.
- (3) Animals in group X lay eggs and animals in group Y give birth to young.
- (4) Animals in group X give birth to young and animals in group Y lay eggs.

2. Study the properties of the two groups of things given below.

Group A	Group B
<ul style="list-style-type: none"> • Have a spreading and branching form • Usually respond slowly to changes in the surroundings • Movements are less obvious 	<ul style="list-style-type: none"> • Have compact bodies • Can respond quickly to changes in the surroundings • Can move from one place to another

Which one of the following sets of headings for Group A and Group B is correct?

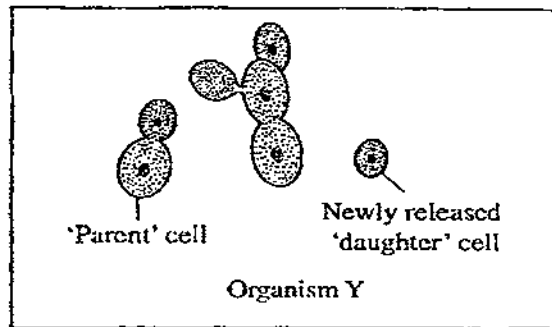
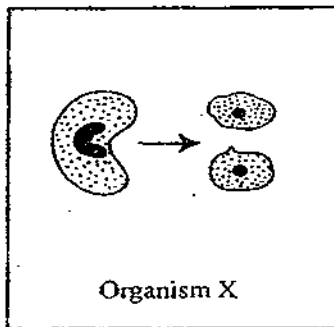
Group A	Group B
(1) Plants	Animals
(2) Non – living things	Living things
(3) Animals without backbone	Animals with backbone
(4) Organisms that live in water	Organisms that live on land

3. Which of the following comparisons between the life cycle of a mosquito and that of a butterfly are correct?

	Butterfly	Mosquito
A: Lays eggs in water	No	Yes
B: Four stages in its life cycle	Yes	Yes
C: The young resembles the adult	Yes	No
D: During the larva stage, it is a pest	No	Yes

- (1) A and B only
 (2) A and D only
 (3) B and C only
 (4) C and D only

4.



Which one of the following statements about Organism X and Y is true?

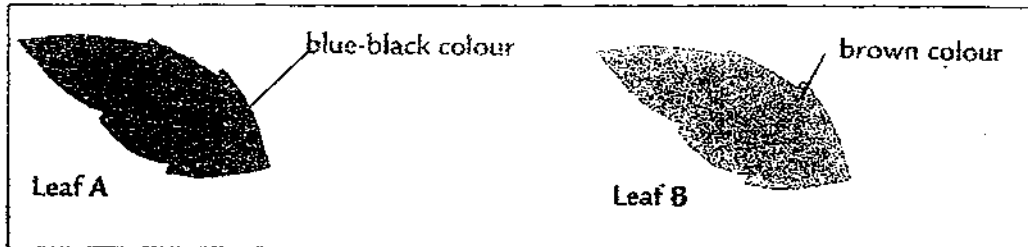
- (1) Both Organism X and Y divide by splitting
 (2) Cells in both Organisms X and Y are likely to be bacteria
 (3) Organism X divides by splitting and Organism Y divides by budding
 (4) Organism X is likely to be an animal, while Organism Y is likely to be a plant

5. Which of the following animals shed their skin when they grow?

- A: Caterpillar
 B: Snake
 C: Tadpole

- (1) A and B only
 (2) A and C only
 (3) B and C only
 (4) A, B and C

6. In an experiment, a leaf is removed from a plant after being placed in the sunlight for a period of time. At the same time, another leaf is taken from a similar plant which is placed in the dark room for the same period of time. Both are then tested with iodine solution. The results are shown below.



Which of the following statements is **correctly** made from this observation?

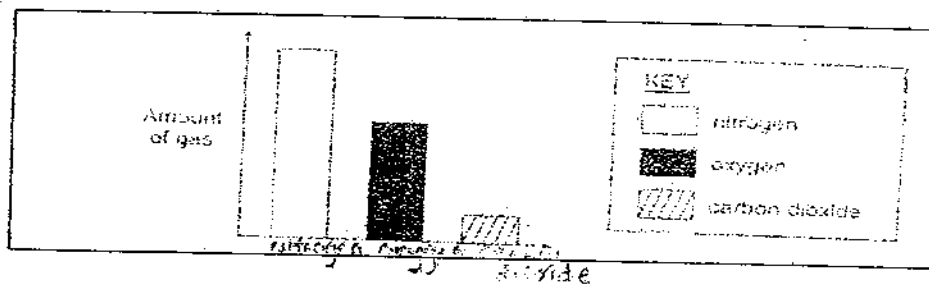
- (1) Leaf A contains sugar while leaf B contains starch
 (2) Leaf A is placed under the sun while leaf B is placed in the dark room
 (3) Leaf A is located in the dark room while leaf B is placed under the sun
 (4) Iodine solution is not suitable to be used for testing the presence of starch
7. What does the above experiment in Question 6 trying to show us?
- (1) Photosynthesis produces starch directly
 (2) Light is necessary for plants to make starch
 (3) Raw materials are needed for plants to make food
 (4) Iodine is a good chemical test for the presence of starch
8. Which of the following organs in the human body that has a similar function as the stomata in plants?
- (1) Heart
 (2) Lungs
 (3) Mouth
 (4) Stomach
9. Dylan placed a thick liquid called glycerine, a tennis ball and some red beans into a plastic bag. He then tied the mouth of the bag to make a model of an animal cell. What do the three things represent in the cell?

	Glycerine	Tennis ball	Plastic bag
(1)	Chromosomes	Nucleus	Cell wall
(2)	Cytoplasm	Genes	Cell membrane
(3)	Nucleus	Chloroplasts	Cell wall
(4)	Cytoplasm	Nucleus	Cell membrane

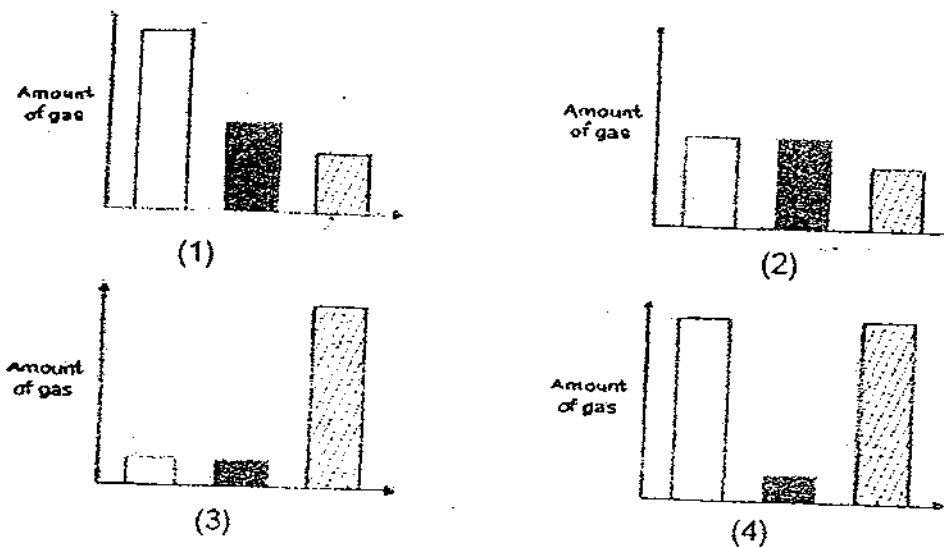
10. Which of the following states the similarity between plant and human transport system?

Plant Transport System	Human Transport System
(1) Has tubes that transport water only	(1) Has tubes that transport food only
(2) Transports water and mineral salts to other parts of the plant	(2) Transports oxygen, digested food, carbon dioxide and water
(3) Has a pump to push materials through the tubes	(3) Has the heart to pump blood through the blood vessels
(4) Transports food produced by the leaves away from the leaves	(4) Transports food that has been digested by the small intestines away from the small intestines

11. The graph below shows the amount of nitrogen, oxygen and carbon dioxide in the air we breathe in (inhale).



Which one of the following graphs correctly shows the amount of these gases in the air we breathe out (exhale)?

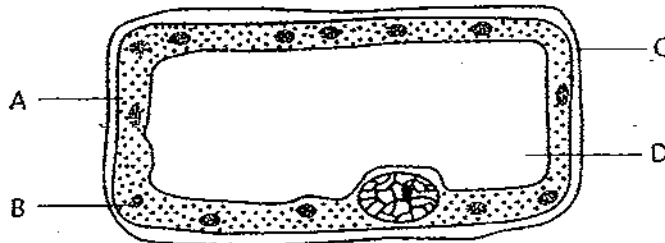


12. When a person exercises, _____

- A: her breathing rate increases
- B: her heart beat increases
- C: blood goes to her brain at a faster rate
- D: blood goes to her muscles at a faster rate

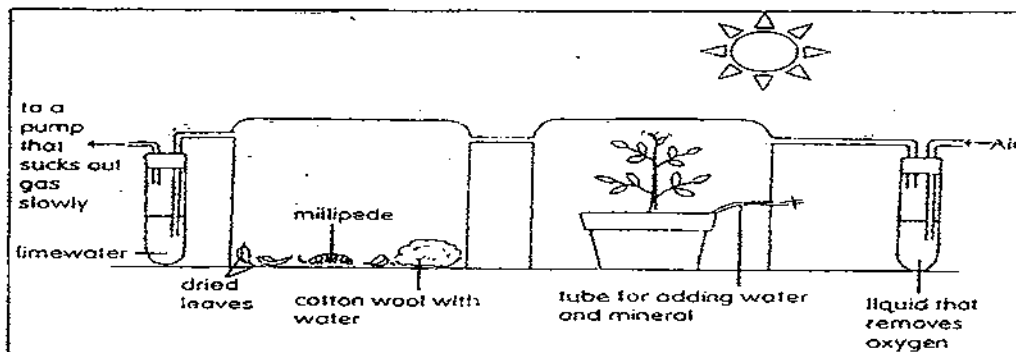
- (1) A and B only
- (2) B and C only
- (3) B, C and D only
- (4) All the above

13. Janet saw that her balsam plant was wilting. The diagram below shows a plant cell. Which is the part that fills up when Janet waters her plant and makes the plant become firm again?



- (1) A
- (2) B
- (3) C
- (4) D

14. What is the purpose of the following experimental set-up?



- (1) To test the effects of oxygen on the rate of photosynthesis
- (2) To test the effects of carbon dioxide on the rate of photosynthesis
- (3) To show that plants produces oxygen during photosynthesis for animals to survive
- (4) To show that animals produces carbon dioxide during respiration for plants to make food

15. Which of the following statements about cells are correct?

- A: The cell is the smallest unit of life
- B: Cells come in many different shapes and sizes
- C: All cells contain nuclei with hereditary materials
- D: A bigger living thing has more cells in its body than a smaller living thing of the same species

- (1) A and B only
- (2) A and C only
- (3) B and C only
- (4) A, B and D only

16. Recently, Methodist Girls School has requested a company to design a PE t-shirt that is more comfortable. The company proposed the t-shirt to be made of a material called 'dry-fit'. What do you think are the properties of such material that will make a good t-shirt?

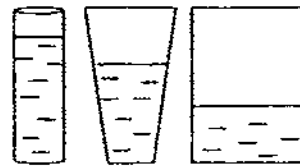
- (i) Insulating
- (ii) Absorbent
- (iii) Waterproof
- (iv) Non-stretchable

- (1) (i) & (iii)
- (2) (ii) & (iii)
- (3) (ii) & (iv)
- (4) (i) & (iv)

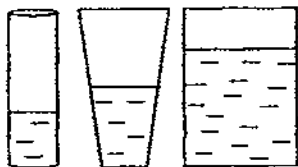
17. A liquid will take the shape of the container it is poured in. Which picture below shows the correct water level when the same amount of water is poured into these three containers?



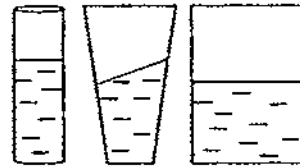
(1)



(2)



(3)



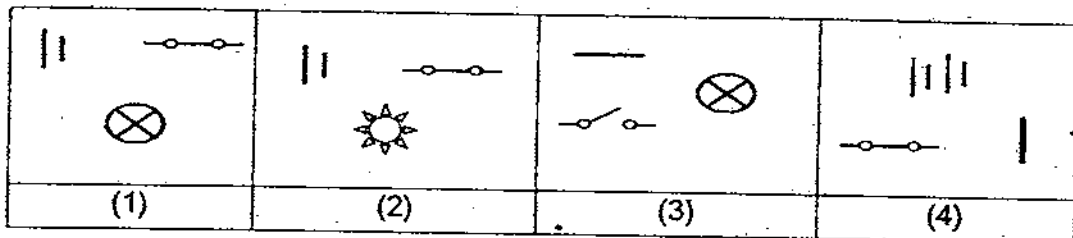
(4)

18. During a wedding ceremony, Tania noticed that a group of ushers poured some water into a few pails of dry ice. Immediately, mist appeared when the couple walked down the aisle. What has taken place in order to create such a romantic effect?

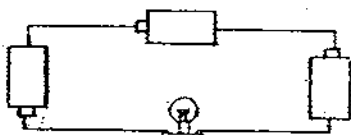
W: Dry ice has turned into liquid state
 X: Dry ice has turned into gaseous state
 Y: Dry ice has lost heat to the water
 Z: Dry ice has gained heat from the water

- (1) W and Y only
 (2) W and Z only
 (3) X and Y only
 (4) X and Z only

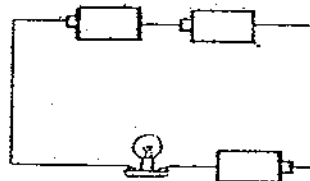
19. Which one of the following sets contains a symbol that is not used in an electrical circuit diagram?



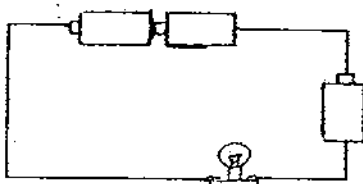
20. The circuits below are using similar batteries and bulbs. Which circuit has the batteries arranged in parallel?



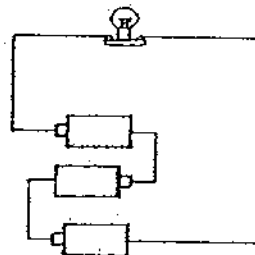
W



X



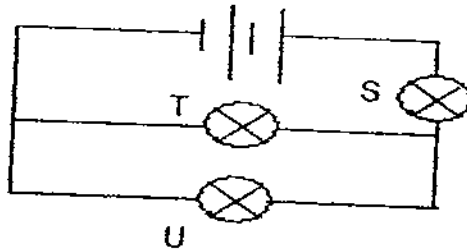
Y



Z

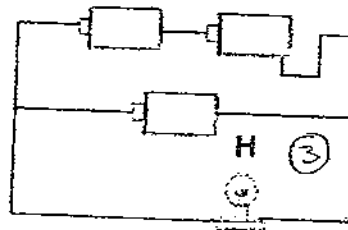
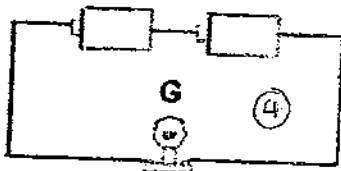
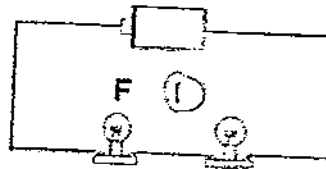
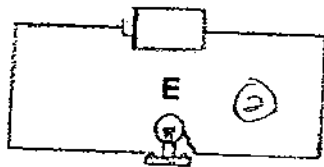
- (1) X and Y only
 (2) Y and Z only
 (3) X, Y and Z only
 (4) None of the above

21. If the bulbs (S, T and U) used in the circuit are all identical, which of the following statements is true?



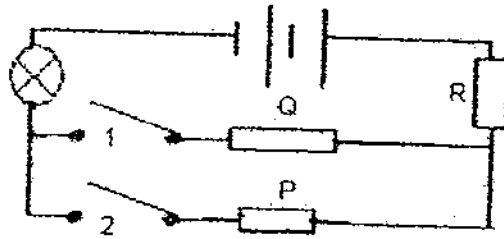
- (1) All 3 bulbs are of the same brightness
- (2) Bulb T and Bulb U are of the same brightness
- (3) Bulb S is the brightest followed by Bulb T and Bulb U
- (4) Bulb U is the brightest followed by Bulb S and Bulb T

22. Study the circuits below and arrange them according to the brightness of the bulb(s), starting from the least bright to the brightest.



Brightness	Least	→	Most
(1)	E	→	F → G
(2)	F	→	E → G
(3)	F	→	H → G
(4)	H	→	G → F

23. P, Q and R are objects placed in the circuit as shown below.



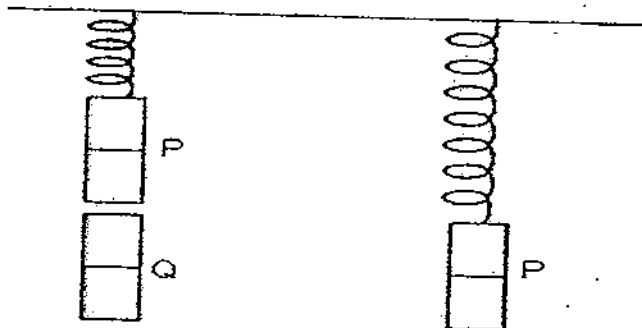
The table below shows what happens when the switches are closed.

Switch(es) closed	Bulb is lit
1	No
2	No
1 and 2	No

Which one of the following correctly states what the three objects might be?

	P	Q	R
(1)	Glass	Wood	Metal
(2)	Metal	Wood	Metal
(3)	Wood	Metal	Metal
(4)	Metal	Glass	Metal

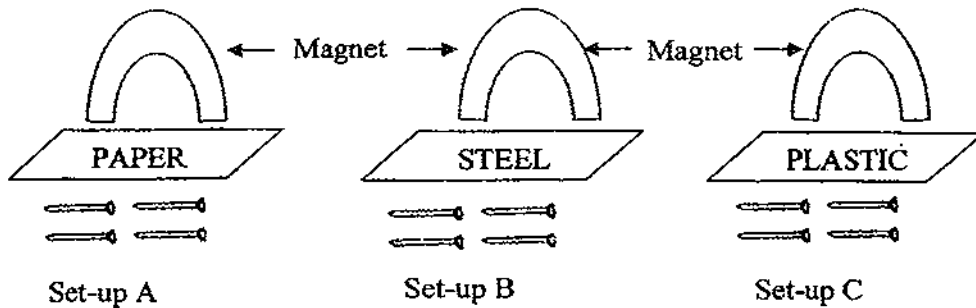
- 24.



Magnet P is hung from a spring while Magnet Q is placed under Magnet P as shown in Diagram 1. Once Magnet Q is removed, the spring extended as shown in Diagram 2. Which one of the following statements best explains what happened in the experiment?

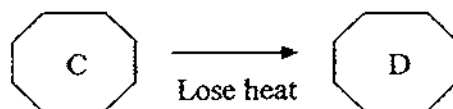
- (1) Magnet P has become heavier
- (2) Magnet Q exert an upward force on Magnet P
- (3) Magnet Q exert a downward force on Magnet P
- (4) Magnet Q helps to support the weight of Magnet P

25. Kang Sheng was carrying out an experiment on the effect of magnetism on the nails when different sheet of material was placed between them.



Which of the following is the most likely outcome of this experiment?

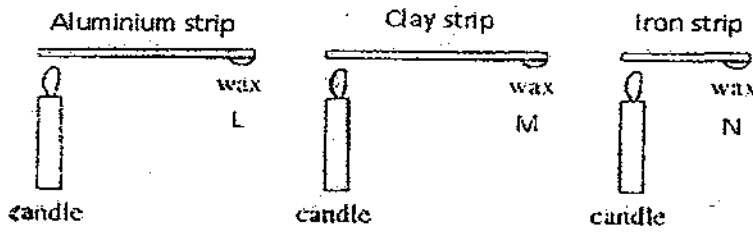
- (1) All the nails in the 3 set-ups are attracted by the magnets
 - (2) Only nails in Set-up B and C are attracted by the magnets
 - (3) Only nails in Set-up A and B are attracted by the magnets
 - (4) Only nails in Set-up A and C are attracted by the magnets
26. When a child suffers from high fever, there is a practice to place a wet towel around the child's head and neck. What do you think is the possible reason for doing that?
- (1) The wet towel provides coldness to the body
 - (2) The wet towel is a poor conductor of heat to prevent heat from entering the body
 - (3) The wet towel is a good conductor of heat to conduct heat away from the body
 - (4) The wet towel allows evaporation to happen around the body
27. Look at the diagram below.



What can C and D be?

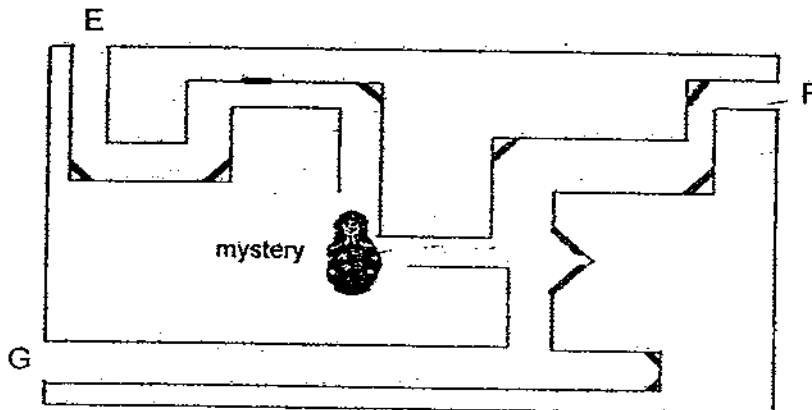
	C	D
(1)	Water vapour	Morning dew
(2)	Boiling water	Steam
(3)	Ice berg	Sea water
(4)	Butter	Oil

28. The following experiment was carried out to find out how well would each strip conduct heat.



The end of each strip was heated until the wax melted. Which option shows the correct order of wax been melted?

- (1) L, M, N
 - (2) N, L, M
 - (3) N, M, L
 - (4) M, N, L
29. The diagram below shows a box with a mystery in it. At which hole(s) would Benson be able to view that mystery?



- (1) E only
- (2) F only
- (3) G only
- (4) None of the above

30. One morning when Grandpa Fred takes a stroll in the park, he observed the shadow of a rain tree at 8 a.m. as shown below.



Which picture will show what Grandpa Fred will observe if he were to stroll along the same path at 1p.m. just after his lunch?



--- End of Booklet A. Please proceed to Booklet B ---

METHODIST GIRLS' SCHOOL
Founded in 1887



PRIMARY 5 MID-YEAR EXAMINATION 2009
SCIENCE
BOOKLET B1

Total Time : 1 hour 45 minutes

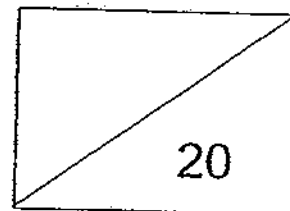
INSTRUCTIONS TO CANDIDATES

Do not open the booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

Name: _____ ()

Class: Primary 5. _____

Date: 8 May 2009



This booklet consists of 7 printed pages.

Section B1: Open-ended (7 questions = 20 marks)

Read each question carefully and write your answers in the spaces provided.

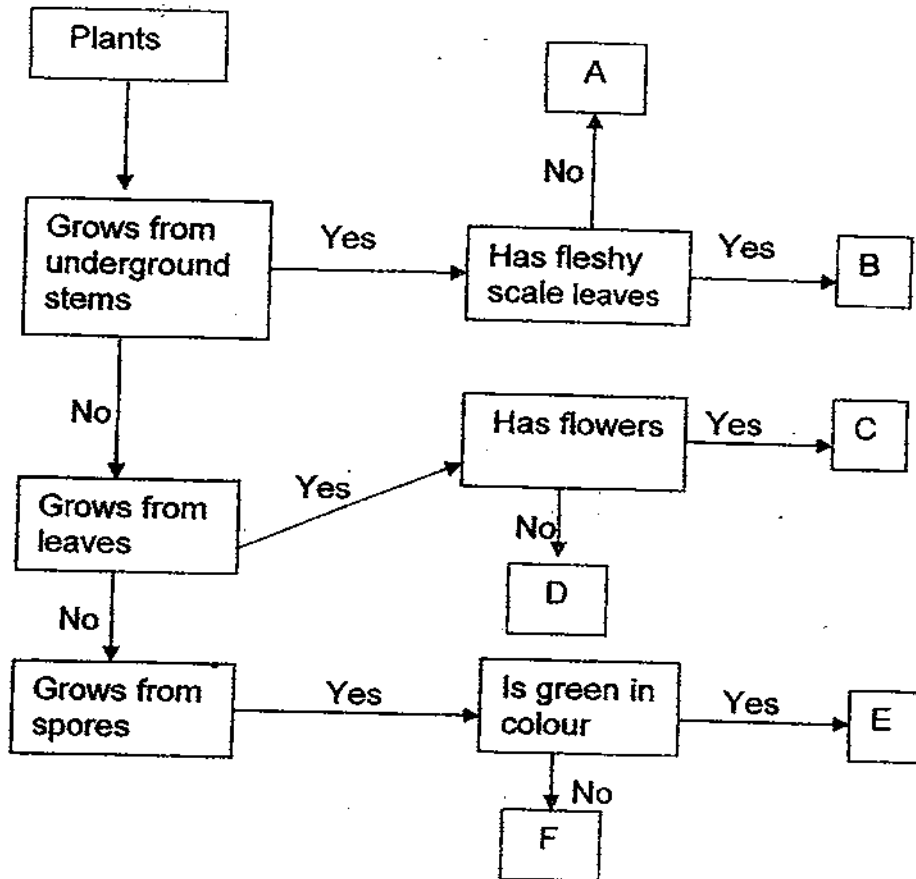
31. Study the information of animals P, Q, R and S given in the table below.

Animals	Body covered with hair or fur or feathers	Reproduces by laying eggs	Have three body parts	Have gills for breathing
Animal P	No	Yes	No	Yes
Animal Q	No	Yes	Yes	No
Animal R	Yes	No	No	No
Animal S	Yes	Yes	No	No

Based on the table given, identify which animal could possibly be a mammal, a fish, an insect and a bird. Put a tick [✓] in the correct box. (2m)

Animals	Fish	Mammal	Insect	Bird
P				
Q				
R				
S				

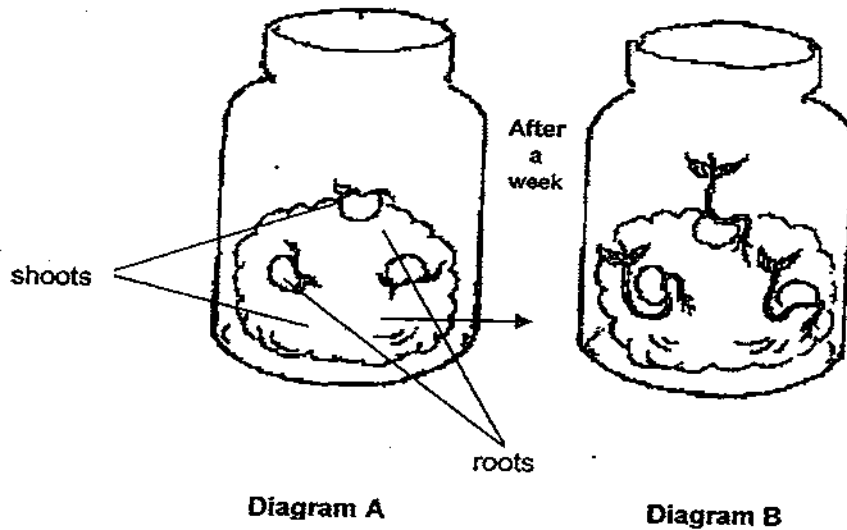
32. The flow chart below shows the characteristics of Plants A, B, C, D, E and F and the way they reproduce themselves. Study the chart carefully.



Using the information given in the flow chart, match the plants listed below in the table. Write the letter (A, B, C, D, E or F) beside each plant. (3m)

Bryophyllum		Mushroom	
Ginger		Fern	
Onion		African violet	

33. In an experiment, a group of pupils took three young seedlings and placed them in a jar with damp cotton wool as shown in Diagram A. After one week, they noted the results as shown in Diagram B.

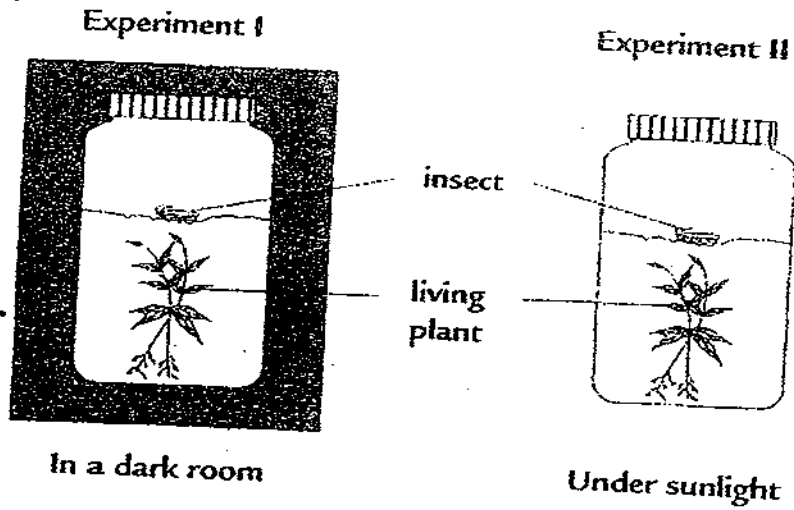


- a) From the above information, name the process that has taken place? (1m)

- b) Which part of the seed provides the young seedling with food for its growth? (1m)

- c) Name two conditions required for the young seedlings to grow into healthy plants. (1m)

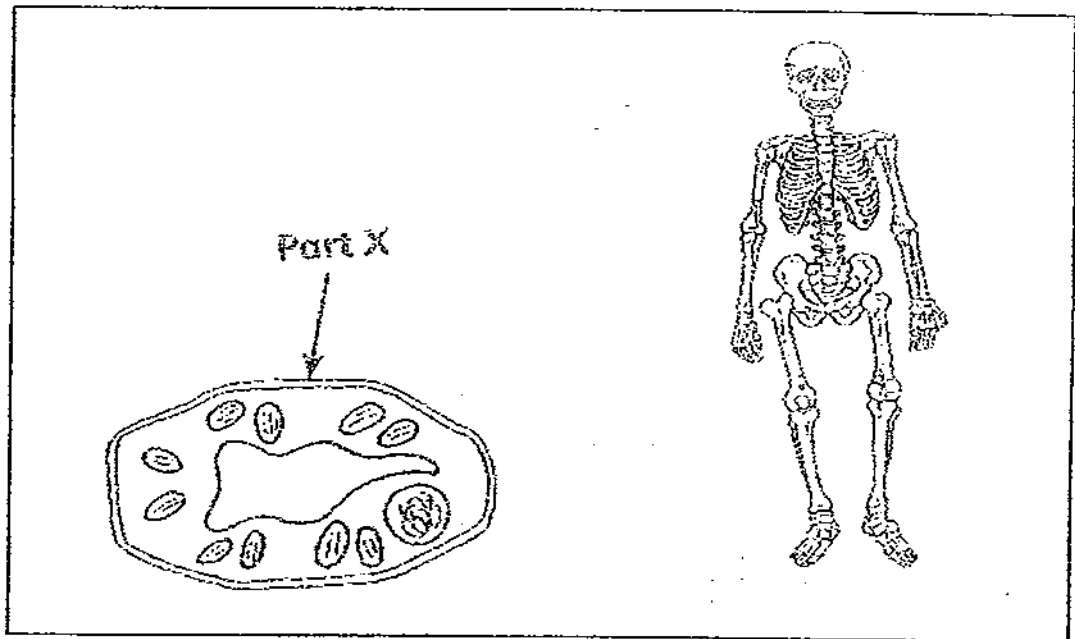
34. The following experiments are set up. The same types of insect and living plant are used in both experiments.



- a) Why do you think the insect in Experiment II lives longer than the insect in Experiment I ? (1m)

- b) What is/are the process(es) that is/are taking place in experiment II ? (2m)

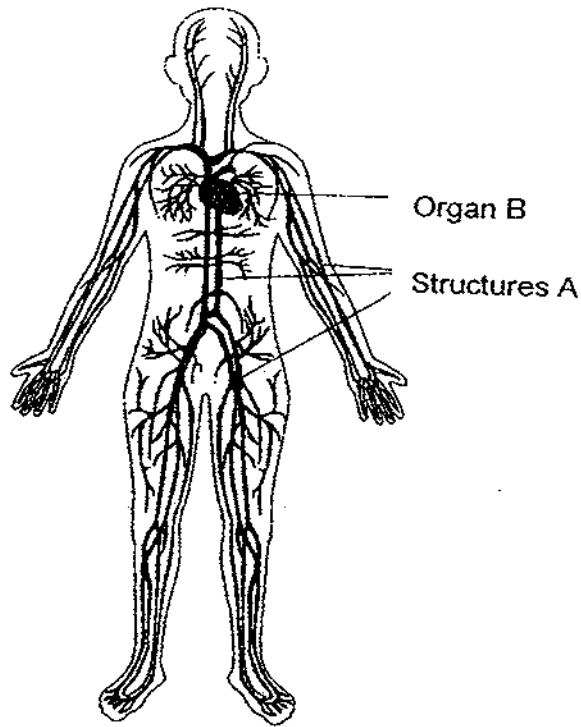
35. Study the diagrams below.



a) How is the function of Part X similar to that of the human skeleton? (2m)

b) Can the cell shown above be found in the human body? Give a reason for your answer. (1m)

36. The diagram below shows a system of the human body,

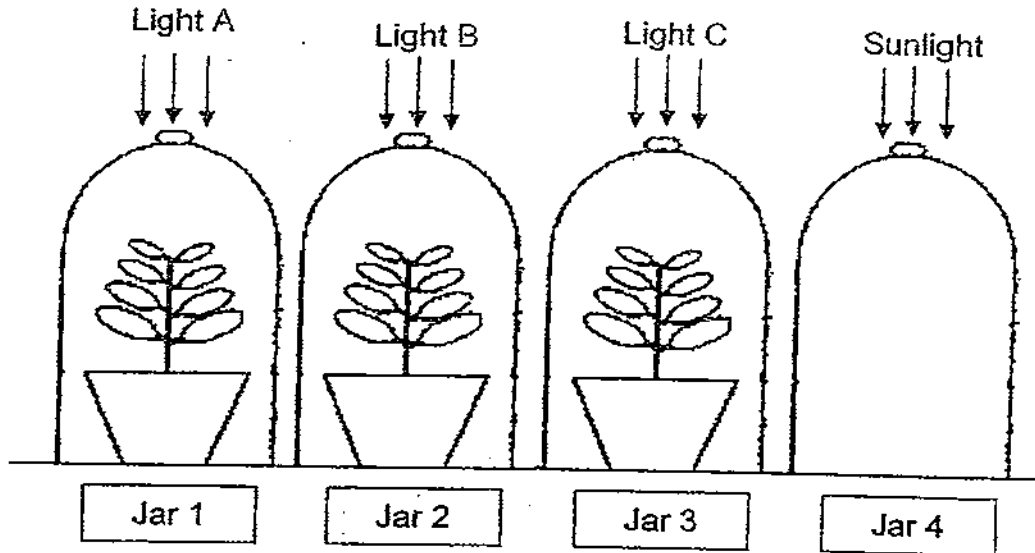


a) Name 2 substances that structure A carries to the cells. (1m)

b) Explains what happens to organ B when a person runs? (1m)

c) Which part of the skeletal system protects organ B? (1m)

37. 3 different coloured light bulbs (A, B and C) were used in an experiment shown below. The set-ups were left in a room for 24 hours. The percentage of carbon dioxide in the bell jar below, before and after the experiment, were measured and recorded in the table below.



Jar	Light	Percentage of carbon dioxide before the experiment	Percentage of carbon dioxide after the experiment
1	A	0.05	0.045
2	B	0.05	0.055
3	C	0.05	0.02
4	Sunlight	0.05	0.05

- a) What is the aim of this experiment? (1m)
- _____
- b) What were the 2 main factors that were kept constant? (1m)
- _____
- c) What can you conclude from the results of this experiment? (1m)
- _____

End of Booklet B1

METHODIST GIRLS' SCHOOL

Founded in 1887



PRIMARY 5 MID-YEAR EXAMINATION 2009 SCIENCE BOOKLET B2

Total Time : 1 hour 45 minutes

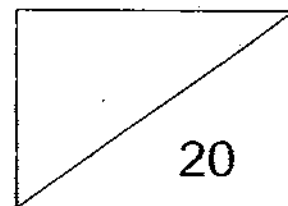
INSTRUCTIONS TO CANDIDATES

Do not open the booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

Name: _____ ()

Class: Primary 5. _____

Date: 8 May 2009



This booklet consists of 6 printed pages.

Section B2: Open-ended (7 questions = 20 marks)

Read each question carefully and write your answers in the spaces provided.

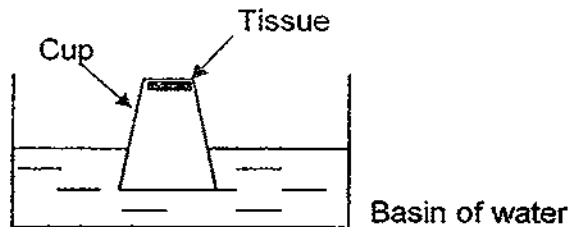
38. While shopping one day, Kim noticed a toy shop selling a beautiful toy aeroplane made of Styrofoam. As she continued to stroll, she noticed a similar toy aeroplane in another 2 shops. However, one of the aeroplanes is made of plastic while another is made of wood. She was wondering which one to buy.

a) If Kim's intention is to be able to fly the aeroplane manually as high as possible for pleasure purpose. Based on the material, which aeroplane should she buy? (1 m)

b) State one reason why Kim should buy that aeroplane in (a). (1 m)

c) In the end, Kim bought the wooden toy aeroplane and was told that it needs a remote control to operate. What must be added into the plane to cause it to fly? (1 m)

39. Sherlyn inverted a Styrofoam cup vertically down into a basin of water as shown in the diagram below. A tissue is taped at the bottom of the cup.

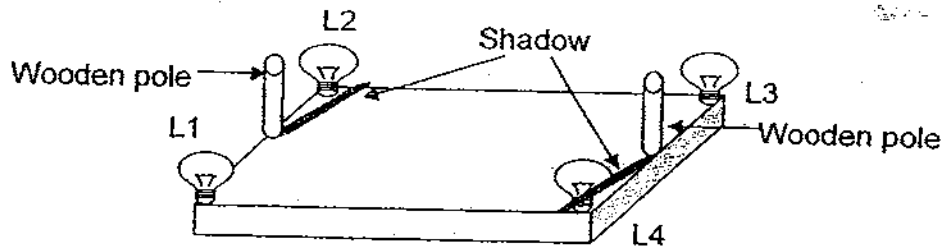


- a) Sherlyn pushed the cup into the basin of water and then removed the cup from the water to observe what happened to the tissue. She noticed that the tissue was still dry. Explain why this is so. (1 m)

- b) What modification must she make to the experiment so that she may observe what was explained in (a) is true? (1 m)

- c) What should she do to the Styrofoam cup in order to get the tissue wet if she were to repeat exactly the same procedure of the experiment as above? (1 m)

40. Two wooden poles and four bulbs are placed on top of a circuit card as shown below.

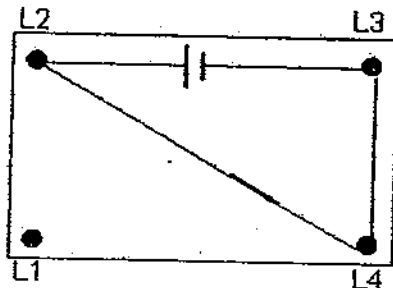


- a) Which bulb(s) would have lit up?

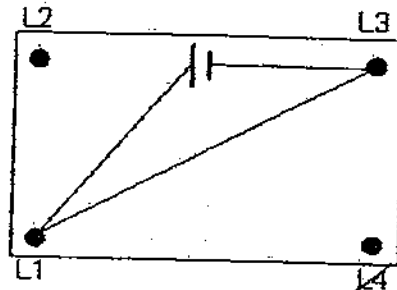
(1 m)

- b) Place a tick in the bracket [✓] that shows the correct circuit diagram that is most likely to be below the circuit card that will be able to light up the bulb(s) above.

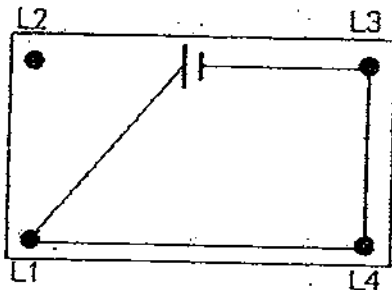
(1 m)



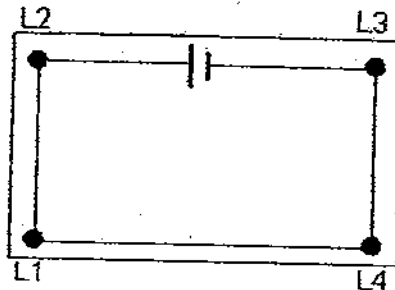
[]



[]



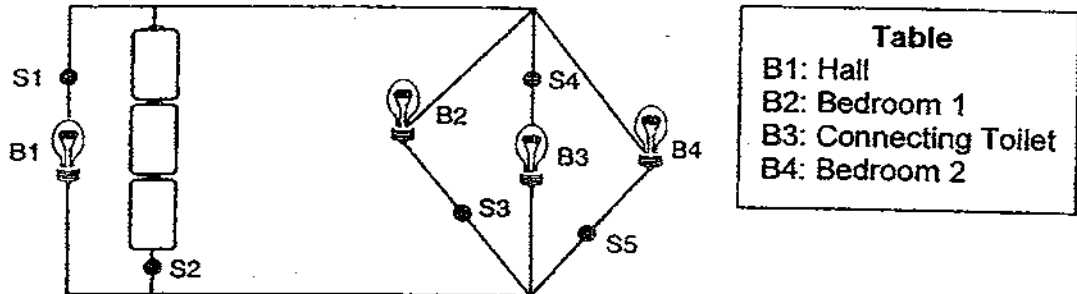
[]



[]

- c) It is common to see many birds perching on the wires. Why is it that birds do not get electrocuted when they perched on these wires? (1 m)

41. The diagram below shows a model of a circuit system of the lights in a house. S1, S2, S3, S4 and S5 represent the switches while B1, B2, B3 and B4 represent the lights at different places in the house as shown in the classification table.

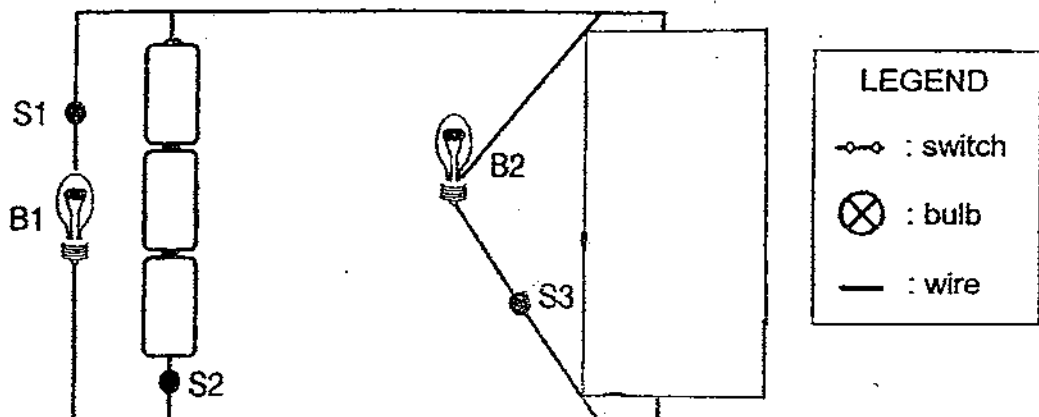


- a) John, who is the owner of this house, will usually switch off the main switch to ensure that all lights are off before he sleeps. Which is most likely to be the main switch that he always turns off before he sleeps?(1 m)

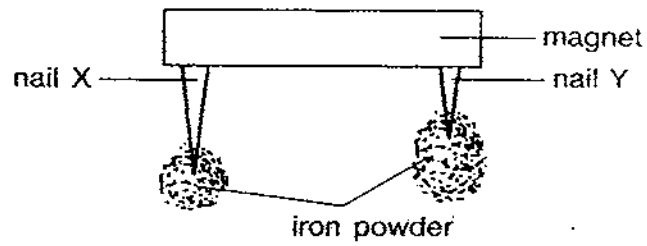
John turns on the main ^{switch} ~~switch~~ the first thing he wakes up in the morning.

- b) Whenever the main ^{switch} ~~switch~~ is on, the hall will be brighten up. Which switch is always on the 'turn on' mode ~~in~~ the morning? (1 m)

- c) In 1 month time, John would be expecting a baby boy. He wants to prepare Bedroom 2 for the baby. What modification must he make to that part of the circuit system so that when his wife ^{switches} ~~switches~~ on the Bedroom 2 light (B4), the connecting toilet light (B3) will automatically light up? Use the circuit symbol given in the legend to draw your modification in the box given. (2 m)



42. There are two iron nails of different length at each end of a bar magnet. Equal amount of iron powder is placed at the end of each nail and the nails attract the powder.



- a) From this experiment, what can you conclude about the relationship between the length of the nail and the amount of iron powder attracted? (1 m)

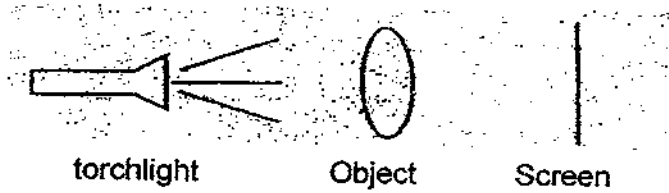
- b) Why did nail Y attract more iron powder than nail X? (1 m)

43. In countries that experience winter many potted plants are placed in a greenhouse as shown in the picture below.

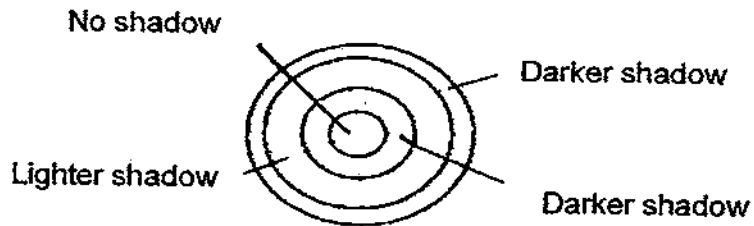


- State 2 reasons why the greenhouse is made of glass. (2 m)

44. An object which is made of different materials is placed between torchlight and a screen as shown below.

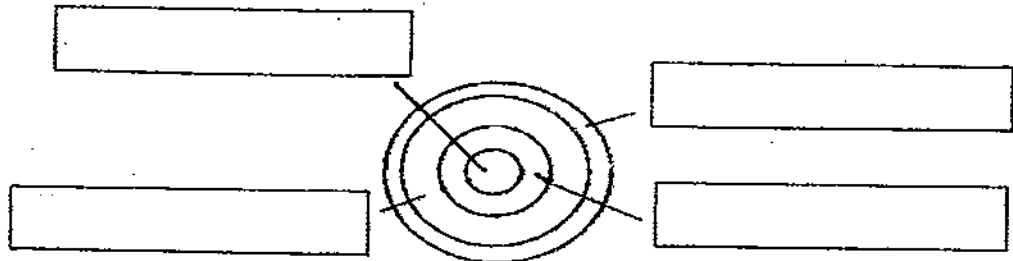


The diagram below is the shadow that is formed on the screen.



- a) Using the words given in the box, fill in the appropriate parts of the object that will form the above shadow. Each word can **ONLY** be used **ONCE** (2 m)

~~Clear glass~~ ~~Tracing paper~~ ~~Metat~~ ~~Wood.~~



- b) When the screen is covered with a black cloth, the shadow formed has 'disappeared'. Explain why this has happened. (1 m)



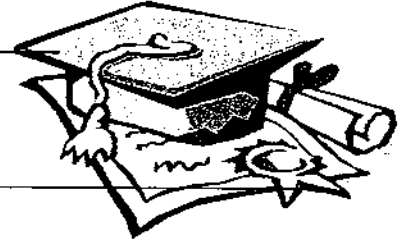
ANSWER SHEET

EXAM PAPER 2009

SCHOOL : M G S PRIMARY SCHOOL

SUBJECT : PRIMARY 5 SCIENCE

TERM : SA 1



Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17
2	1	1	3	1	2	2	2	4	4	1	4	4	3	4	3	2

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
4	2	4	2	3	1	2	4	4	1	2	2	4

31)P: Fish Q: insect R: Mammal S: Bird

32)D F
 A E
 B C

33)a)Germination has taken place.
 b)The seed leaf.
 c)Water and air.

34)a)Sunlight could enter the jar in Experiment II, hence the living water plant could photosynthesize to produce oxygen for the insect to take in, but sunlight could not enter the jar in Experiment II and both the plant and insect needed oxygen for respiration, so the oxygen was used up in the jar very quickly.
 b)Photosynthesis and respiration.

35)a)Part X keeps the plant cell firm like the human skeleton and also given it a defined shape.
 b)No, it cannot be found. The cell shown above has a cell wall and chloroplasts and its vacuole is centralized but the vacuoles found in the human body are small and scattered.

- 36) a) Structure A Carries digested food and oxygen.
 b) It beats faster when we exercise as our body needs more food and oxygen to produce energy.
 c) The ribcage.

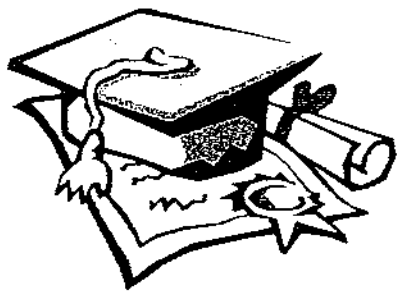
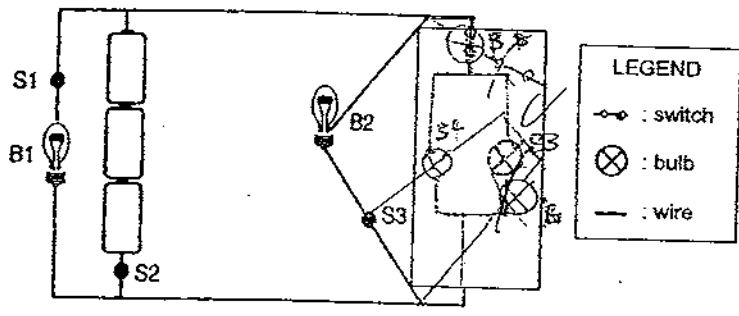
- 37) a) To find how the coloured light affect the rate of photosynthesis.
 b) The type of plants and the intensity of the light.
 c) Plants photosynthesis best under light C.

- 38) a) Styrofoam.
 b) Styrofoam is the lightest material thus it can fly the highest.
 c) Batteries.

- 39) a) There was air occupying space in the Styrofoam cup, so water could not enter it, keeping the tissue dry.
 b) Use a glass cup instead of a Styrofoam cup.
 c) She should poke a hole on the cup.

- 40) a) Bulbs L1 and L3 would have lit up.
 b) () (✓)
 () ()
 c) The wires are well insulated. The feathers of the bird did not form a closed circuit.

- 41) a) Switch 2.
 b) Switch 1.
 c)



42)a)The shorter the nail is, the more amount of iron powder is attracted.

b)Being closer to the magnet. It has more magnetic force.

43)1)Glass is transparent, so sunlight can enter the greenhouse, enabling the potted plants to photosynthesise.

2)Glass is a poor conductor of heat,thus, enable to trap heat easily.

44)a)

b)Both the black surface and the shadow are not able to reflect light.

